

REMARKS

By this Amendment, claims 15, 17-18, 20-30, 32-33, 35-45, 47-48, 50-60, 62-71 and 74-77 are pending in this Application, of which claims 15, 17-18, 20-30, 32-33, 35-41, 43-45, 47-48, 50-60, 62-70 and 74-76 are currently amended. Claims 16, 19, 31, 34, 46, 49, 61 and 72-73 are canceled without prejudice or disclaimer. No new matter is introduced.

The Office Action dated 11/12/2010 rejected claims 15-18, 20-23, 25, 27, 29-33, 35-38, 40, 42, 44-48, 50-53, 55, 57, 59-67, 69, 71 and 74-77 under 35 U.S.C. § 103(a) as being unpatentable over *Watson et al.* (US 2004/0133923) in view of *Fujinami* (US 7,664,951), and further in view of *Jiang et al.* (US 2009/0154445); and rejected claims 24, 26, 28, 39, 41, 43, 54, 56, 58, 68 and 70 under 35 U.S.C. § 103(a) as being unpatentable over *Watson* in view of *Fujinami* and *Jiang*, and further in view of *Connelly et al.* (US 7,284,064).

A. 35 U.S.C. § 103(a) Rejection of Claims 15-18, 20-23, 25, 27, 29-33, 35-38, 40, 42, 44-48, 50-53, 55, 57, 59-67, 69, 71 and 74-77 Over Watson In View Of Fujinami, and Further In View Of Jiang

Applicants respectfully traverse the 35 U.S.C. § 103(a) rejection of claims 15-18, 20-23, 25, 27, 29-33, 35-38, 40, 42, 44-48, 50-53, 55, 57, 59-67, 69, 71 and 74-77 over *Watson* in view of *Fujinami* and further in view of *Jiang*, because all features of the claims are not disclosed by the applied art, either individually or in combination, and neither the rejection nor the cited references provide sufficient evidence, based on the teachings of the references themselves, of the requisite motivation for making the cited combination.

In the statement of the rejection, the Examiner acknowledges that *Watson* does not explicitly disclose the foregoing features of determining to access the at least one piece of pre-broadcast content, receiving the live broadcast of the corresponding same at least one piece of broadcast content, and determining to present the accessed at least one piece of pre-broadcast

content, as recited in the present independent claims. (*Office Action*, P. 4, lines 1-7) Instead, the Examiner cites to *Fujinami*, asserting that:

Fujinami et al disclose determine to access accessing at least one piece of pre-broadcast content from the memory no sooner than the scheduled time for broadcast of the same at least one piece of content (each preloaded stream file stored in the receiving apparatus is synchronized with the clock transmitted from the broadcasting station to be reproduced, col.17, lines 13-16; computes the difference between the current time and the program start time. The computed difference denotes an elapsed time from the start of the program, col.17, lines 1-12). (*Office Action*, P. 4, lines 8-14)

and cites to *Jiang*, asserting that:

Jiang et al disclose receive live broadcast of the same at least one piece of content from the content source; and determine to present presenting the accessed at least one piece of pre-broadcast content consistent with the scheduled time for broadcast of the same at least one piece of content by the content source (Video data smoothing preloads part of the video data to a smoothing buffer at the client before play-out. After play-out has started, the rest of the video data may be transmitted in a less bursty fashion without compromising the quality of the video data. For given video data, video data smoothing generates the transmission schedule, 0027; 0029). (*Office Action*, P. 4, lines 19-26)

Applicants respectfully disagree, and submit that there are fundamental differences between the rejected claims and the applied references that undermine the obviousness conclusion under 35 U.S.C. §103(a). For example, independent claim 30 recites, *inter alia*, the features “determining to access the at least one piece of pre-broadcast content from the memory at a time synchronized with the scheduled time for the live broadcast of the associated same at least one piece of broadcast content, receiving the live broadcast of the associated same at least one piece of broadcast content from the content source, and determining to present the accessed at least one piece of pre-broadcast content synchronized with the scheduled time for the live broadcast of the associated same at least one piece of broadcast content by the content source.” Further independent claims 15, 45 and 60 recite similar features. Applicants submit, as

presented below, that the cited combination of *Watson* in view of *Fujinami* and further in view of *Jiang* neither discloses nor suggests such features.

Jiang discloses a video data smoothing method and system that reduces the variability of the bandwidth requirement for transmitting video data. (*Jiang*, ¶ 26) *Jiang* accomplishes this video smoothing by **preloading part of the video** to a smoothing buffer at the client device before play-out, and transmitting **the rest of the video** after play-out has started, as described in the following paragraphs of *Jiang*:

In the present invention, video data smoothing is used as an effective way to reduce the variability of the bandwidth requirement for transmitting the video data, which can potentially simplify other operations such as resource allocation and improve network utilization. (*Jiang*, ¶ 26)

Video data smoothing **preloads part of the video data to a smoothing buffer at the client before play-out**. After play-out has started, **the rest of the video data may be transmitted in a less bursty fashion without compromising the quality of the video data**. For given video data, video data smoothing generates the transmission schedule, which includes the rates at which the video data will be delivered during play-out, based on **buffer size, available bandwidth and allowed play-out delay**. A valid transmission schedule must guarantee that, given the bandwidth it requires, the smoothing buffer will not overflow or underflow during the entire play-out of the video data. Depending on the user's requirements, the smoothing algorithm may also need to optimize certain characteristics of the transmission schedule, such as peak rate, number of rate changes, etc. (*Jiang*, ¶ 27)

In addition, smoothing may particularly improve the quality of the video data received through a wireless link. This is because the fluctuation of wireless channel conditions, e.g., the rate at which packets are successfully delivered over the wireless link, may sometimes be lower than their arrival rate from a wired link. When packets are delayed at the base-station for too long, they eventually miss their play-out time resulting in degradation of video data quality. If the video data is smoothed, the scheduling arrival time of a packet is normally earlier than its play-out time. Therefore, more delay at a base-station can be tolerated, and the packet drop rate may be reduced. (*Jiang*, ¶ 29)

In other words, *Jiang* discloses the buffering of an initial portion of a video stream prior to the start of the play-out of the video. Then, once the play-out has started, the remainder of the video stream is transmitted and fed through the buffer. The subsequent transmission of the remainder of the video stream can thereby be transmitted in a more bandwidth efficient fashion without adversely affecting the smoothness of the video play-out. During play-out, the video data is pulled from the buffer a constant rate to support a smooth play-out. Further, the data buffering is based on a transmission schedule determined in view of the rates at which the video data will be delivered during play-out, based on buffer size, available bandwidth and allowed play-out delay. The transmission schedule is set to ensure that the buffer does not overflow or underflow during the entire play-out of the video data. Namely, the preloaded content stored in the buffer and the subsequent video data stream are merely different portions of the same video stream, all fed through the buffer to facilitate the video smoothing process.

Clearly, therefore, the disclosure of *Jiang* cannot be interpreted as addressing the access of the pre-loaded (pre-broadcast) content at a time synchronized with a scheduled time for a live broadcast of the same broadcast content, as presently claimed. Similarly, *Jiang* cannot be interpreted as disclosing the presentation of the pre-broadcast content synchronized with the scheduled time for the live broadcast of the corresponding broadcast content, in the manner as presently claimed. For example, the buffered content of *Jiang* is certainly not synchronized with a live broadcast of the same content. Indeed, *Jiang* lacks any disclosure of, and is entirely inapplicable to, the access and presentation of pre-broadcast content synchronized with the live broadcast of the corresponding broadcast content – by definition, you cannot present broadcast content from a buffer, and maintain synchronization with the live broadcast of the same content.

Accordingly, *Jiang* fails to disclose or suggest the features of determining to access pre-broadcast content at a time synchronized with the scheduled time for the live broadcast of the corresponding broadcast content, receiving the live broadcast of the corresponding broadcast content, and determining to present the accessed pre-broadcast content synchronized with the live broadcast of the corresponding same broadcast content, particularly in the manner as presently claimed.

Moreover, in view of applicable case law and the guidelines of the MPEP, Applicants submit that the Office Action fails to present a sufficient basis for a motivation to make the cited combination of *Watson* in view of *Fujinami*, and further in view of *Jiang*. It is well-settled that “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727, 1741 (2007). The Patent Office must give specific reasons why one of ordinary skill in the art would have been motivated to make the cited combination. *See, e.g., In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998); *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988). “[T]he test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). Further, MPEP §2142 notes that:

[t]o reach a proper determination under 35 U.S.C. 103, the examiner must step backward in time and into the shoes worn by the hypothetical ‘person of ordinary skill in the art’ when the invention was unknown and just before it was made. In view of all factual information, the examiner must then make a determination whether the claimed invention “as a whole” would have been obvious at that time to that person. Knowledge of applicant's disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the “differences,” However, impermissible hindsight must be

avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.”

The Office Action, however, fails to present objective evidence, based on the teaching of the references as a whole, as to why one of ordinary skill in the art would have been motivated to make the cited combination.

To support the cited combination, the Examiner asserts that “[i]t would have been obvious for any person of ordinary skill in the art at that time the invention was made to incorporate the teaching of *Jiang* into the invention of *Watson* as modified by *Fujinami* for the purpose of allowing the system to splice to pre-loaded portion of contents with a live portion of the same content during transmission.” (*Office Action*, P. 5, lines 1-4) The disclosure of *Jiang*, however, (as presented above) provides a smoothing process for the transmission of video data that reduces or eliminates the adverse affects of packet delays and packet losses. *Jiang* lacks any suggestion or indication whatsoever that would lead one of skill in the art to apply the video smoothing (buffering) process of *Jiang* to facilitate the splicing of a “preloaded portion of contents with a live portion of the same content during transmission.” For example, as explained above, *Jiang* lacks any disclosure of (or applicability to) a live broadcast, let alone the synchronization of pre-broadcast content with a corresponding live broadcast of the content.

Watson provides a digital home movie library, essentially functioning as a pay-per-view system that eliminates the trip to the movie rental store and the possibility of being charged for late fees (¶ [0024]). In particular, *Watson* pre-loads movies to the user’s home system, and then releases per movie for view on demand. *Watson* replaces on-demand movie transmission with movie pre-loading plus on-demand movie viewing locally. *Watson* discourages, and thus teaches away from “receiving live broadcast of the same at least one piece of content from the content source.” Further, *Fujinami* balances broadcast load during prime times “as if there were

an increase in channels in the prime time (col. 5, lines 48 through 49).” The prime time denotes a time zone in which audience rate is higher than in other time zones; for example, a time zone from 19:00 to 23:00 (col. 5, lines 15-17). As such, two types of broadcasting are available in *Fujinami* during prime time: one is the normal/live broadcasting in which transmitted programs (e.g., Program B, Program C, and Program D in Channel A in FIG. 11) are viewed in real time on the receiver side; and the other type includes programs (e.g., Program X, Program Y in Channel B) that are pre-loaded in non-prime time periods and viewable in prime time (col. 11, lines 31-40 and 55-57; FIGS. 9 & 11). To reduce the broadcast load, a pre-loaded program can only be accessed locally in *Fujinami*, but not to be “received live from the content source.” Accordingly, *Watson* and *Fujinami* further fail to provide any suggestion or indication that would lead one of skill in the art to apply the video smoothing (buffering) process of *Jiang* to facilitate the splicing of a “preloaded portion of contents with a live portion of the same content during transmission.”

The references, therefore, provide no motivation for one of skill in the art to make the cited modification of *Watson* and *Fujinami*, through the referenced teaching of *Jiang*, as asserted by the Examiner.

Accordingly, for at least the foregoing reasons, neither *Watson*, *Fujinami* or *Jiang* alone, nor the cited combination of *Watson* in view of *Fujinami* and further in view of *Jiang*, render independent claims 15, 30, 45 and 60, or claims 16-18, 20-23, 25, 27, 29, 31-33, 35-38, 40, 42, 44, 46-48, 50-53, 55, 57, 59, 61-67, 69, 71 and 74-77 depending therefrom, obvious under 35 U.S.C. § 103(a).

B. 35 U.S.C. § 103(a) Rejection of Claims 24, 26, 28, 39, 41, 43, 54, 56, 58, 68 and 70 Over *Watson* In View of *Fujinami* and *Jiang*, and Further In View of *Connelly*

Applicants respectfully traverse the 35 U.S.C. § 103(a) rejection of claims 24, 26, 28, 39, 41, 43, 54, 56, 58, 68 and 70 over *Watson* in view of *Fujinami* and *Jiang*, and further in view of *Connelly*, because all features of the claims are not disclosed by the applied art, either individually or in combination.

Claims 24, 26, 28, 39, 41, 43, 54, 56, 58, 68 and 70 depend from independent claims 15, 30, 45 and 60, respectively, and the Office Action applies the combination of *Watson* in view of *Fujinami* and *Jiang* to these claims on the same bases as with the § 103(a) rejection of their respective independent claims (addressed in Section A, above). Applicants, therefore, incorporate herein the arguments presented above in Section A with respect to the application of *Watson* in view of *Fujinami* and *Jiang* to claims 24, 26, 28, 39, 41, 43, 54, 56, 58, 68 and 70, accordingly. The Office Action cites to *Connelly* for the alleged disclosure of the additional features recited in these dependent claims (*Office Action*, Pp. 15-18) *Connelly*, however, also lacks the disclosure or suggestion of the features of accessing pre-broadcast content, receiving a live broadcast of the corresponding broadcast content, and presenting the accessed pre-broadcast content synchronized with the live broadcast of the corresponding broadcast content, in the manner recited in independent claims 15, 30, 45 and 60, and thus fails to remedy the deficiencies of *Watson* in view of *Fujinami* and *Jiang*. Accordingly, for at least the foregoing reasons, neither *Watson*, *Fujinami*, *Jiang* or *Connelly* alone, nor the cited combination of *Watson* in view of *Fujinami* and *Jiang*, and further in view of *Connelly*, render claims 24, 26, 28, 39, 41, 43, 54, 56, 58, 68 and 70 obvious under 35 U.S.C. § 103(a).

C. Conclusion

Therefore, the present application, as amended, overcomes the rejections of record and is in condition for allowance. Favorable consideration is respectfully requested. If any unresolved issues remain, it is respectfully requested that the Examiner telephone the undersigned attorney at (703) 519-9952 so that such issues may be resolved as expeditiously as possible.

To the extent necessary, a petition for an extension of time under 37 C.F.R. §1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 504213 and please credit any excess fees to such deposit account.

Respectfully Submitted,

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